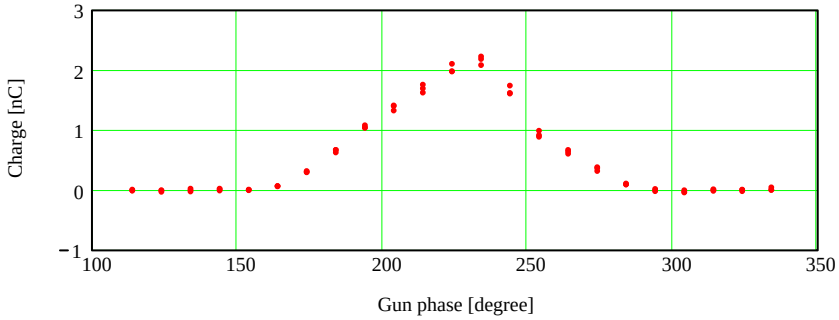
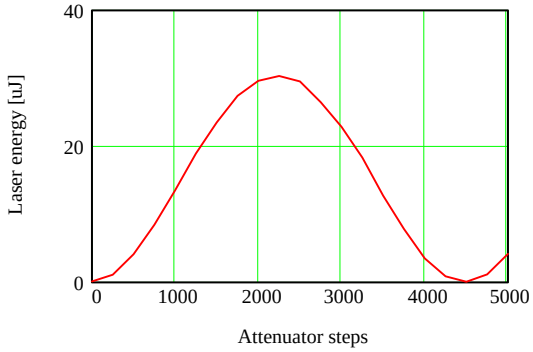
Measured on 12/26/00

Photoinjector performance

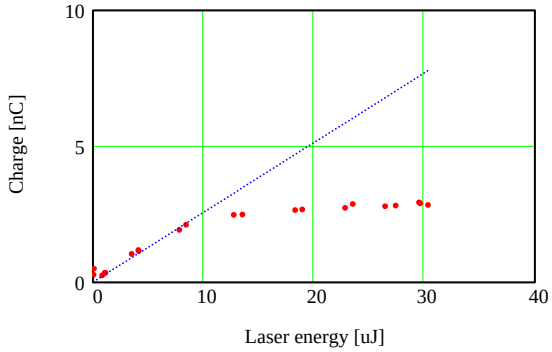
Charge (nC) vs. laser to RF nominal phase (degrees with arbitrary zero point):



Laser energy (microJoules) vs. laser cross polarizer (step number, arbitrary units):



Electron charge (nC) vs. Laser energy on the cathode (microJoules):



Derived quantities:

Maximum available laser energy [microJoules]: MaxLaserEnergy = 30.512

Space-charge limited laser energy [microJoules]: NomLaserEnergy = 8.972

Quantum efficiency [nC/microJoule]: QuantumEfficency = 0.256

Quantum efficiency [percent]: 0.466 QuantumEfficency = 0.12

Maximum (space-charge limitted laser energy) charge [nC]: MaxCharge = 2.231

measured at a laser energy of: LaserEnergyMean = 9.094

and at a nominal gun phase of: MaxGunPhase = 233.983

Statistics:

Laser energy standard deviation [%] LaserEnergyStdDev = 2.155

Peak to Peak laser energy jitter [%]: LaserEnergyPeak2Peak = 9.603

Operating point:

Nominal charge [nC]: NomCharge = 0.272

@ Gun Phase [deg]: NomGunPhase = 173.983

Gun Forward Power [Volts]: GunFrwdPower = - 1.083